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Articles

International Environmental Governance: The Strive Towards a Comprehensive, Coherent, Effective and Efficient International Environmental Regime

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I. INTRODUCTION AND OVERVIEW

At the beginning of the last century, environmental issues were not

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1. The ideas formulated in this contribution are not those of the Swiss government but reflect the views and ideas of the authors. The authors would like to thank Daniel Ziegerer for his critical comments on a first draft of this article.

major concerns for multilateral policy makers, and the idea of an international governance structure for the protection of the environment would have been strange. Over the past few decades, however, a complex and multi-layered international environmental governance structure has emerged in response to the recognition that threats to the global environment undermine the resource base of human development and well-being. In light of the proliferation of international environmental institutions, processes, and mechanisms, attempts were undertaken to clarify and strengthen the existing international environmental governance structure.² The idea to establish a World Environment Organization—a proposal that emerged in the 1990s³ and was repeated by President Chirac at the 58th United Nations General Assembly⁴—is just one example of such an attempt to reform the international environmental regime.⁵ Yet there is no single view of the

2. See discussion *infra* Part II.2. See also Hilary French, *Reshaping Global Governance*, in STATE OF THE WORLD 174, 176–83 (Linda Starke ed., 2002); Donald Fitzpatrick et al., GREENING INTERNATIONAL INSTITUTIONS (1997); Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WELT IM WANDEL: NEUE STRUKTUREN GLOBALER UMWELTPOLITIK (2001); Oram R. Young et al., GLOBAL GOVERNANCE DRAWING INSIGHTS FROM THE ENVIRONMENTAL EXPERIENCE (1997).

3. See, e.g., Frank Biermann, *The Case for a World Environment Organization*, 42 ENVIRONMENT 22, 23–24 (2000); Daniel C. Esty, *The case for a global environmental organization*, in MANAGING THE WORLD ECONOMY: FIFTY YEARS AFTER BRETTON WOODS 287, 287–307 (P.B. Kenen ed., 1994); Udo E. Simonis, *Advancing the Debate on a World Environment Organization*, 22 THE ENVIRONMENTALIST 29 (2002), available at <http://www.kluweronline.com/issn/0251-1088/contents>.

4. At the political level, Germany made a proposal for a World Environment Organization already in 1997 at the Rio+5 meeting, and was then supported by Brazil, Singapore and South Africa. In 1999, Renato Ruggiero as WTO executive director called for a World Environment Organization as a counterweight to the WTO. See Biermann, *supra* note 3, at 24; French, *supra* note 2, at 176; Simonis, *supra* note 3, at 30; Daniel J. Shepard, *Linkages Between Environment, Development and UN Reform*, 3 LINKAGES 3 (1998).

5. See generally Franz Xaver Perrez, COOPERATIVE SOVEREIGNTY: FROM INDEPENDENCE TO INTERDEPENDENCE IN THE STRUCTURE OF INTERNATIONAL ENVIRONMENTAL LAW, 229–41 (2000) [hereinafter COOPERATIVE SOVEREIGNTY] (concerning international environmental regimes as institutionalized cooperation); Anne-Marie Slaughter Burley, *International Law and International Relations Theory: A Dual Agenda*, 87 AM. J. INT'L L. 205, 206–26 (1993) (discussing the notion of regime in international law and international relations theory). See also Robert O. Keohane, AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY 56–63, 252–57 (1984); Stephan D. Krasner, *Structural Causes and Regime Consequences: Regimes as Intervening Variables*, 36 INT'L ORG. 185, 185–204 (1982) (discussing structural changes within regimes); Peter Haus et al., *Systematic International Regimes*, in REGIME THEORY AND INTERNATIONAL RELATIONS 170, 170–86 (1993) (discussing international environmental regimes); Shinya Murase, *Perspectives from International Economic Law on Transnational Environmental Issues*, 253 R.D.C. 283, 413–23 (1995)

ideal international environmental architecture. Some envision a regime that would ensure effective protection of our global environment, while others seek primarily to reduce the costs of the existing architecture. Still others strive to ensure that the international environmental regime would neither change existing rights, nor create new obligations to change chosen ways of life. To reflect these conflicting positions, a new international environmental governance structure would have to be not only visionary and ambitious, but also pragmatic and modest.

This article provides an overview of the effort towards an ideal international environmental governance structure. Following this introduction, Part II describes the emergence of the modern international environmental regime, its evolution from a limited number of ad hoc treaties to a complex network of agreements and institutions, and the different efforts undertaken to bring order and effectiveness to that regime. Part III summarizes the characteristics and shortcomings of the present regime, and finally, Part IV develops four general principles and goals which should guide efforts to reform the present system. Part V concludes by discussing different proposals to strengthen international environmental governance.

II. THE EMERGENCE OF AN INTERNATIONAL ENVIRONMENTAL REGIME

A. From the First International Treaties Towards a Proliferation of Treaties

1. The First Environmental Treaties: "Ad hoc" Solutions to Halt Overexploitation

As people began to realize that the process of industrialization and development required limitations on the exploitation of certain natural resources, they adopted legal rules aimed at halting over-exploitation. Thus, the first treaties concerning environmental issues—adopted in the nineteenth century—typically concerned the conservation of wildlife and, to a limited extent, the protection of rivers and seas.⁶ Typical

(discussing international regimes for the environment).

6. COOPERATIVE SOVEREIGNTY, *supra* note 5, at 272; Astrid Epiney & Martin Scheyli, *Strukturprinzipien des Umweltvölkerrechts* 20 (1998) (indicating that international treaties dealt already in the 18th century with issues that would today be

examples of these included bilateral fishery treaties to protect the seas, rivers, or lakes from over-fishing.⁷ The focus of international environmental treaties expanded over time, and in the late nineteenth and early twentieth centuries the first bilateral and multilateral conventions dealing with limiting the spread of harmful substances and transboundary water pollution were adopted.⁸

However, in this first period of international environmental law, the adoption of treaties was still "*ad hoc*, sporadic and limited in scope[;] . . . institutional arrangements to address environmental issues and problems were limited."⁹ Nevertheless, nations' early understanding of the difficulty of solving environmental problems unilaterally has led to a limitation of the freedom of independent states to act outside of the interest of transboundary environmental protection. This recognition has also facilitated the emergence of the traditional neighbourly principle, as well as rules that seek to balance the different economic and environmental interests. The result has been early forms of international environmental cooperation.¹⁰

2. *The Evolution Toward More Comprehensive Treaties*

While the early international environmental treaties were limited in terms of the subject matters they addressed, in

considered as part of international environmental law). See also Edith Brown Weiss, *International Environmental Law: Contemporary issues and the Emergence of a New World Order*, 81 GEO. L.J. 675, 675-76 (1993); PHILIPPE SANDS, *PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW* 26 (1994).

7. See, e.g., Convention between France and Great Britain relative to Fisheries, Nov. 11, 1867, *reprinted in* 21 I.P.E. 1; Convention establishing Uniform Regulations concerning Fishing in the Rhine between Constance and Baselle, Dec. 9, 1869, *reprinted in* 9 I.P.E. 4695; Agreement Between the Government of the United States of America and the Government of her Britannic Majesty for a Modus Vivendi in Relation to Fur Seal Fisheries in the Bering Sea, June 15, 1891, *reprinted in* 7 I.P.E. 3655.

8. See, e.g., International Phylloxera Convention, June 23, 1882, *reprinted in* 4 I.P.E. 1571; Convention between the Riverine States of the Rhine Respecting Regulations Governing the Transport of Corrosive and Poisonous Substances, May 11, 1900, *reprinted in* 25 I.P.E. 214; Treaty Relating to Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, 1909, *reprinted in* 208 C.T.S. 213.

9. COOPERATIVE SOVEREIGNTY, *supra* note 5, at 272, *citing* SANDS, *supra* note 6, at 26, 29.

10. COOPERATIVE SOVEREIGNTY, *supra* note 5, at 272-73. See also Ulrich Beyerlin, *Rio Konferenz 1992: Beginn einer neuen globalen Umweltrechtsordnung*, 54 ZEITSCHRIFT FÜR AUSLÄNDISCHES OFFENTLICHES RECHT UND VÖLKERRECHT 124, 125-27 (1994); Murase, *supra* note 5, at 309; COOPERATIVE SOVEREIGNTY, *supra* note 5, at 271-77; SANDS, *supra* note 6, at 26-29.

terms of the regions they covered, and in terms of the cooperation they arranged for, the subsequent evolution has enlarged the reach of international environmental treaty law and intensified the forms of international cooperation.¹¹

This evolution has been characterized by the globalization of international environmental law, leading to two results. On the one hand, increasingly global issues such as the protection of the ozone layer and climate change have come to the forefront of international environmental law.¹² On the other hand, traditionally local issues like the protection of endangered species and biodiversity have become matters of international regulation.¹³ The development of international environmental law has further involved a move from traditional rules of “command and control” toward increasing usage of economic instruments.¹⁴ This evolution has also required a strengthening of international cooperation, and this is reflected in the newer conventions and treaties dealing with environmental law.¹⁵

3. *The Proliferation of Treaties*

During the second half of the twentieth century, the number of international treaties covering all fields of environmental problems greatly increased.¹⁶ Since the end of the nineteenth century the number of

11. COOPERATIVE SOVEREIGNTY, *supra* note 5, at 273. See also Beyerlin, *supra* note 10, at 127–31, 148; Murase, *supra* note 5, at 309–13 (discussing the evolution of international environmental treaties); SANDS, *supra* note 6, at 29–61.

12. Murase, *supra* note 5, at 312. See, e.g., Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, *reprinted in* 26 I.L.M. 151 (entered into force Mar. 22, 1985); United Nations Conference on the Environment: Framework Convention on Climate Change, June 19, 1992, *reprinted in* 31 I.L.M. 849 (entered into force May 9, 1992).

13. See, e.g., Convention on International Trade in Endangered species of Wild Fauna and Flora, Mar. 3, 1973, *reprinted in* 993 U.N.T.S. 243 (entered into force July 1, 1975); United Nations Convention on Biological Diversity, June 5, 1992, *reprinted in* 31 I.L.M. 818 (entered into force June 5, 1992).

14. Franz Xaver Perrez, *The Cartagena Protocol on Biosafety and the relationship between the multilateral trading system and multilateral environmental agreements (MEAs)*, in REVUE SUISSE DE DROIT INTERNATIONAL ET EUROPÉEN 518, 520 (2000) [hereinafter *The Cartagena Protocol on Biosafety*]; Lamont C. Hempel, ENVIRONMENTAL GOVERNANCE: THE GLOBAL CHALLENGE 194–202 (1996) (incorporating economics into ecology); Murase, *supra* note 5, at 401–02.

15. For a discussion of duties and obligations to cooperate in international environmental law, see COOPERATIVE SOVEREIGNTY, *supra* note 5, at 271–330.

16. For an illustration of the gradual proliferation of international environmental

environmental treaties worldwide has grown to over 500, of which sixty percent are regional.¹⁷ About sixty percent (over 300) of these international environmental treaties have been negotiated since 1972, the year of the United Nations Stockholm Conference on the Human Environment.¹⁸ This mushrooming growth of environmental agreements and non-binding instruments has led to a proliferation of international environmental treaties.¹⁹ Each of these multilateral environmental agreements (MEAs) normally has its own "mini-institutional machinery,"²⁰ often including a Conference of the Parties, a secretariat, advisory bodies, and subsidiary bodies such as technical expert groups.²¹ If a minister of the environment had to participate in all of the meetings of the Conference of the Parties—as is sometimes expected—the result would be absurd. He or she would likely be attending meetings for 600 days out of the year.

Despite the efforts of many nations to address international environmental challenges (and the resulting rapid growth in international environmental treaties), the international environmental regime is still fragmented and institutionally weak. As a result of the fragmentation, the provisions of the different MEAs and the decisions of the different environmental processes are often inconsistent.²² Moreover, in addition to overlap and the potential for inconsistencies, there are many gaps in the current regime and many international environmental agreements are not yet sufficiently ratified or implemented.²³ Therefore, while there have been impressive efforts to address the common environmental challenges, it remains clear that the world's nations are far from having established the perfect institutional and political framework.

treaties adopted in this century, see SANDS, *supra* note 6, at xix–xl.

17. See French, *supra* note 2, at 176; *Multilateral Environmental Agreements: A Summary*, U.N. Environment Programme, 1st Sess., Agenda Item 3, at 3, U.N. Doc. UNEP/IGM/1/INF/1 (2001) [hereinafter *Multilateral Environmental Agreements*], available at http://www.unep.org/IEG/docs/working%20documents/MEA_summary/IGM-1-INF-1.doc.

18. See *Multilateral Environmental Agreements*, *supra* note 17, at 3.

19. Murase, *supra* note 5, at 400.

20. French, *supra* note 2, at 177.

21. *Id.* See also *Multilateral Environmental Agreements*, *supra* note 17, at 6.

22. See French, *supra* note 2, at 177.

23. See *infra* Part III.

B. The Efforts for Strengthening International Environmental Governance

The evolution of international environmental treaty-making from “ad hoc” origins towards a more systematic proliferation of international environmental treaties, agreements, and processes has not occurred in isolation. Rather, it has been accompanied by several efforts to ensure its own coherence.²⁴ Three such crucial efforts include the establishment of the United Nations Environment Program (UNEP) after the Stockholm Conference on the Human Environment, the creation of the Global Ministerial Environment Forum (GMEF), and the process for strengthening international environmental governance.

1. The Establishment of the United Nations Environment Program (UNEP)

In June 1972, representatives from 113 countries met in Stockholm at the United Nations (UN) Conference on the Human Environment. This was the first attempt by the international community to address the relationship between the environment and development at the global level.²⁵ By adopting three instruments—an Action Plan, the Stockholm Declaration, and a Recommendation on Institutional and Financial Arrangements—the Stockholm Conference succeeded in putting the environment at the top of the global agenda.²⁶ The Stockholm Action Plan for the Human Environment, with its 109 recommendations, was the first global action plan for the environment. It established a broad policy framework for addressing international environmental challenges.²⁷ The Conference’s Stockholm Declaration became the foundation for the development of international environmental law during the 1970s and 1980s.²⁸ Finally, the Recommendation on Institutional and Financial

24. SANDS, *supra* note 6, at 33–36.

25. See generally *Report of the United Nations Conference on the Human Environment* (1972), available at <http://www.unep.org/Documents/Default.asp?DocumentID=97>; SANDS, *supra* note 6, at 34–35.

26. Franz Xaver Perrez, *The Relationship Between “Permanent Sovereignty” and the Obligation Not to Cause Transboundary Environmental Damage*, 26 ENVTL. L. 1187, 1200 (1996) [hereinafter *Permanent Sovereignty*] (noting that the Stockholm Conference was pivotal in the development of international environmental law); Louis B. Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT’L L. J. 423, 515 (1973) (noting that the Stockholm Declaration was the first step in establishing the basic rules of international environmental law).

27. See, e.g., L. K. Caldwell, *INTERNATIONAL ENVIRONMENTAL POLICY* 61 (1984); SANDS, *supra* note 6, at 35.

28. *Stockholm Declaration on the Human Environment*, U.N. Doc. A/CONF.48/14

Arrangements proposed the establishment of an intergovernmental Governing Council for Environmental Programmes, an Environmental Secretariat headed by an Executive Director, an Environment Fund, and an inter-agency Environmental Coordinating Board.²⁹ In essence, the Stockholm Conference led to the establishment of the UNEP by the UN General Assembly.³⁰

The UN Conference on the Human Environment aided the development of a more coherent approach to international environmental issues. As discussed above, the Conference outlined the general framework for international environmental policy, established the basic rules of general international environmental law,³¹ and led to the establishment of UNEP as an institution to coordinate the international cooperation for the protection of the environment. Thus, these significant results from the Stockholm Conference laid the groundwork for the emergence of a coherent and comprehensive international environmental regime.

2. From Stockholm to Rio and the Creation of the Global Ministerial Environment Forum (GMEF)

The period after Stockholm was not only marked by greater efforts by existing institutions to address environmental issues and develop new environmental norms, but was also characterized by a proliferation of international environmental institutions, instruments, and processes.³² One major event was the establishment of the Global Environment Facility (GEF) in 1991.³³ Under the GEF, a global fund was created to help developing countries finance projects and programs for the

(1973), reprinted in 11 I.L.M. 1416, available at <http://www.unep.org/Documents/Default.asp?DocumentID=97&ArticleID=1503>; *Permanent Sovereignty*, *supra* note 26, at 1200; SANDS, *supra* note 6, at 35–37; Sohn, *supra* note 26, at 423.

29. SANDS, *supra* note 6, at 35.

30. G.A. Res. 2997, U.N. GAOR, 2d Comm., 27th Sess., at 43, U.N. Doc. A/CONF.48/14/Rev/1 (1972), available at <http://www.unep.org/Documents/Default.asp?DocumentID=287&ArticleID=3933>.

31. *See also* Sohn, *supra* note 26, at 515.

32. *Multilateral Environmental Agreements*, *supra* note 17, at 2; SANDS, *supra* note 6, at 38.

33. *See generally* Global Environment Facility, *Global Environment Facility*, at <http://www.theGef.org> (last visited Jan. 10, 2005); Laurence Boisson de Chazournes, *Le Fonds pour l'environnement mondial: recherché et conquête de son identité*, ANNUAIRE FRANÇAIS DE DROIT INTERNATIONAL 612 (1995); J. Helland-Hansen, *The Global Environment Facility*, 3 INT'L ENVTL. AFFAIRS 137 (1991); SANDS, *supra* note 6, at 736–39.

protection of the global environment.³⁴ During the first decade of its operation, the GEF served as a financial mechanism for the Convention on Biological Diversity and the UN Framework Convention on Climate Change, and provided funds for international waters and ozone activities.³⁵ This initial focus was later enlarged to include efforts to counter land degradation and persistent organic pollutants.³⁶

Funded by a group of thirty-six donor countries, the GEF allocated \$4.5 billion in grants between 1991 and 2003, and this was supplemented by more than \$14.5 billion in co-financing from other partners for over 1,400 projects in 140 developing countries and countries with economies in transition.³⁷ The GEF Projects are implemented by UNEP, the United Nations Development Programme (UNDP), and the World Bank.³⁸ While UNEP and some multilateral environmental conventions were initially critical of this new mechanism because they feared it would intervene with their tasks, a constructive cooperation has emerged over time. Moreover, the GEF has contributed significantly to bringing environmental concerns into mainstream developmental and economic policies, and has promoted coherence in the areas in which the GEF works.³⁹

In 1992, twenty years after the Stockholm Conference, the United Nations convened in Rio de Janeiro for the UN Conference on Environment and Development (UNCED) to once again address environmental challenges in a comprehensive manner.⁴⁰ The UNCED focused on the balance between environmental protection and economic

34. Global Environment Facility Council, *Joint Summary of the Chairs GEF Council Meeting*, at http://www.gefweb.org/What_is_the_GEF/what_is_the_gef.html (last visited Jan. 10, 2005).

35. SANDS, *supra* note 6, at 737.

36. See Global Environment Facility, *Focal Areas*, at http://www.theGef.org/Projects/Focal_Areas/focal_areas.html (last visited Jan. 10, 2005). See also GLOBAL ENVIRONMENT FACILITY, JOINT SUMMARY OF THE CHAIRS, GEF COUNCIL MEETING MAY 9–11, 2001 7 (May 15, 2001), available at http://www.thegef.org/Documents/Council_Documents/Joint_Summary_-_May_2001_English.pdf.

37. GLOBAL ENVIRONMENT FACILITY, ANNUAL REPORT 2003 (2004), available at http://gefweb.org/2003_Annual_Report.pdf.

38. GLOBAL ENVIRONMENT FACILITY, INSTRUMENT FOR THE ESTABLISHMENT OF THE RESTRUCTURED GLOBAL ENVIRONMENT FACILITY 17 (May 2004), at http://www.gefweb.org/GEF_Instrument3.pdf.

39. See generally Boisson de Chazournes, *supra* note 33.

40. For a general overview of the Results of UNCED, see Marc Pallemmaerts, *International Environmental Law in the Age of Sustainable Development: A Critical Assessment of the UNCED Process*, 15 J. L. & COM. 623 (1996); SANDS, *supra* note 6, at 35–57.

development, recognizing that the relationship between the environment and development must be mutually addressed.⁴¹ Some criticize the strong focus on economic and developmental interests, crediting them with weakening environmental concerns and even supplanting the notion of a right to a wholesome environment in favor of an unlimited right to development.⁴²

Despite these criticisms, the Rio Conference succeeded in bringing the environment to the top of the international agenda once more, and enabled the adoption of several important environmental policy instruments—namely the Biodiversity Convention,⁴³ the Climate Change Convention,⁴⁴ and Agenda 21—a comprehensive work program for the promotion of sustainable development. Moreover, the UNCED Conference provided for the creation of a UN Commission on Sustainable Development (CSD) to properly carry Agenda 21 forward.⁴⁵ However, UNEP and the specific international environmental institutions and processes remained the primary focus of international environmental policy making. Additionally, the agenda of the CSD turned out to be too broad and the political commitment too weak to make this institution an effective tool of global policy-making for sustainable development.

In light of the recognition that the numerous international environmental institutions have often been created without due consideration of how they might interact with each other and the overall system, concerns have emerged regarding the efficiency of this multi-faceted institutional architecture, particularly given the continued destruction of natural resources.⁴⁶ Parties recognized that a more coordinated approach was necessary. Consequently, the 1997 Nairobi

41. Louis Henkin et al., *INTERNATIONAL LAW: CASES AND MATERIALS* 1376 (3rd ed. 1993).

42. See *Permanent Sovereignty*, *supra* note 26, at 1203–04; David A. Wirth, *The Rio Declaration on Environment and Development: Two Steps Forward and One Back, or Vice Versa?* 29 GA. L. REV. 599, 623–24 (1995); Lakshman Guruswamy, *International Environmental Law: Boundaries, Landmarks and Realities*, 10 NAT. RESOURCES & ENV'T 43, 46 (1995); Pallemmaerts, *supra* note 40, at 629 (arguing that the Rio Declaration does not build on but unravels the Stockholm Convention), 632–34 (the Rio Declaration and the concept of sustainable development subordinate environmental policy to economic and trade policy).

43. United Nations Convention on Biological Diversity, June 5, 1992, S. TREATY DOC. 20 (1993), *reprinted in* 31 I.L.M. 818.

44. United Nations Framework Convention on Climate Change, May 9, 1992, *reprinted in* 31 I.L.M. 849 (entered into force Mar. 21, 1994).

45. Henkin et al., *supra* note 41, at 1376.

46. *International Environmental Governance: Report of the Executive Director*, U.N. Environment Programme, 4th mtg., ¶ 2, U.N. Doc. UNEP/IGM/4/3 (2001), available at http://www.unep.org/IEG/Monday%2026%20nov/4_3_E_K0135852.doc.

Declaration on the Role and Mandate of UNEP, which was adopted in 1997 by the UNEP Governing Council and endorsed the same year by the UN General Assembly, clearly restated that UNEP is “the principal United Nations body in the field of the environment,” and clarified UNEP’s role as the “leading global environmental authority that sets the global environmental agenda.”⁴⁷ The Nairobi Declaration is generally viewed as having been an important step in the process of strengthening UNEP as the central body for international environmental policy making.

The following year, in 1998, the UN Secretary-General appointed a Task Force on Environment and Human Settlement.⁴⁸ In 1999, based on the Task Force’s recommendations, the UN General Assembly created the GMEF.⁴⁹ The GMEF offered a forum in which the environment ministers could annually meet to review important and emerging policy issues in the field of the environment and to consider ways to ensure the effective and efficient functioning of UNEP’s governance mechanism.⁵⁰ Thereby, the UNEP Governing Council, which meets every second year, constitutes the forum for the GMEF, and the GMEF takes the form of a special session of UNEP’s Governing Council in the alternate years.⁵¹ The GMEF has become an important tool for environmental policy coordination and has underscored the crucial role UNEP has to play as the central pillar of the global environmental regime. Together with the GMEF, the UN General Assembly also established the Environment Management Group, an instrument for enhancing inter-agency coordination in the field of environmental policy making.⁵²

3. UNEP’s International Environmental Governance Process (IEG) and the World Summit on Sustainable Development (WSSD)

The first meeting of the GMEF took place in Malmö, Sweden in 2000. This meeting resulted in the adoption of the ambitious Malmö Declaration, which confirmed the need for a more coherent and

47. *Nairobi Declaration on the Role and Mandate of UNEP*, U.N. Environment Programme, 19th Sess., U.N. Doc. UNEP/GC19/1/1997 (1997), *adopted in* U.N. GAOR, 52d Sess., Annex, Supp. No. 25, U.N. Doc. A/52/25 (1998), *available at* <http://www.unep.org/Documents/Default.asp?DocumentID=287>.

48. *Environment and human settlements: Report of the Secretary-General*, U.N. GAOR, 53d Sess., Agenda Item 30, ¶ 6, U.N. Doc. A/53/463 (1998), *available at* <http://www.un.org/documents/ga/docs/53/plenary/a53-463.htm>.

49. *See* G.A. Res. 53/242, U.N. GAOR, 53d Sess., Agenda Item 30, ¶ 6, U.N. Doc. A/Res/53/242 (1999), *available at* <http://www.un.org/Depts/dhl/resguide/r53.htm>.

50. *Id.* ¶ 6.

51. *Id.*

52. *See id.* ¶ 5.

coordinated approach among international environmental instruments.⁵³ With regard to the international environmental institutional structure, it stressed that the ten-year evaluation of the Rio Conference should reassess the requirements for strengthening international environmental governance. It also stressed the development of an institutional architecture that effectively addresses the wide-ranging environmental threats in a globalizing world. Finally, it emphasized that UNEP's role in this regard should be strengthened.⁵⁴ In 2001, based on the Malmö Declaration, the UNEP Governing Council called for a further strengthening of UNEP, and established an Open-Ended Intergovernmental Group of Ministers or their Representatives to undertake a comprehensive policy-oriented assessment of existing institutional weaknesses as well as future needs and options for strengthening international environmental governance.⁵⁵ This group met six times and finally was able to present a comprehensive report to the third GMEF which took place in February 2002 in Cartagena, Columbia.⁵⁶

After intensive negotiations, the IEG-process culminated in final negotiations at the GMEF in Cartagena in February 2002. In Cartagena, the ministers spent an additional night forging an agreement on a package of five clusters of measures aimed at strengthening the international environmental regime.⁵⁷

The first cluster proposes measures to improve coherence in

53. See *Malmo Ministerial Declaration*, U.N. Environment Programme, Governing Council, 6th Special Sess., 5th mtg., ¶ 3 (2000), available at http://www.unep.org/malmo/malmo_ministerial.htm.

54. *Id.* ¶ 24.

55. *International Environmental Governance*, U.N. Environment Programme, 10th mtg., U.N. Doc. UNEP/GC21/21 (2001); *Governance of United Nations Environment Programme and Implementation of General Assembly Resolution 53/242*, U.N. Environment Programme, 10th mtg., U.N. Doc. UNEP/GC21/20 (2001), available at <http://www.nyo.unep.org/pdfs/53242.pdf>.

56. On the work of the Open-Ended Intergovernmental Group of Ministers or their Representatives, see generally *Open-Ended Intergovernmental Group of Ministers or Their Representatives on International Environmental Governance, Report of the Chair*, U.N. Environment Programme, 3d mtg., U.N. Doc. UNEP/IGM/3/3 (2001), available at <http://www.unep.org/IEG/K0135655.doc>. See also Franz Xaver Perrez, *Country-report: Switzerland's International Environmental Policy in 2002*, 13 Y.B. OF INT'L ENVTL. L. 515, 515-22 (2002).

57. *Governing Council Decision SS.VII on International Environmental Governance*, U.N. Environment Programme, Governing Council, 7th Special Sess., U.N. Doc. UNEP/GCSS.VII/1 (2002) [hereinafter IEG-Report], available at http://www.unep.org/IEG/docs/IEG_decisionSS_VII_1.doc.

international environmental decision making,⁵⁸ underscoring the need for a high level environment policy forum to serve as one of the cornerstones of an effective system of international environmental governance.⁵⁹ Therefore, it requires the UNEP Governing Council/GMEF to provide broad policy advice and guidance, to identify global environmental priorities, and to promote international environmental cooperation.⁶⁰ To strengthen the policy role of the UNEP Governing Council/GMEF, universal participation in its work should be ensured and universal membership should be considered.⁶¹

The second cluster proposes measures for strengthening the financial situation of UNEP.⁶² In order to broaden the base of contributions and enhance predictable financing of UNEP, the measures specifically request the establishment of an indicative scale of contributions which would outline each country's expected payment.⁶³

The third cluster addresses the coordination among different MEAs and suggests that synergies and linkages between MEAs should be enhanced.⁶⁴ Its wording was a compromise which paraphrases the idea of clustering related MEAs at the same place, an idea that is underscored by the specific reference to the current collaborative work among the chemicals/waste MEA secretariats.⁶⁵ The third cluster also requires a more coordinated scheduling of meetings, advances the promotion of biennial meetings, and explicitly encourages the co-location of MEA secretariats.⁶⁶

Finally, the fourth cluster proposes several measures in the area of capacity-building and technology transfer,⁶⁷ and the fifth cluster calls for strengthening the role of the Environment Management Group (EMG).⁶⁸ The EMG was established by the UN General Assembly in 1999, to enhance inter-agency coordination and cooperation in the field of the

58. *Id.* at 6–9.

59. *Id.* at 6.

60. *Id.*

61. *Id.*

62. *Id.* at 9–11.

63. *Id.* at 9–10.

64. *Id.* at 11–12.

65. See *Open-Ended Intergovernmental Group of Ministers or Their Representatives on International Environmental Governance: The Concept of a Chemicals and Waste Cluster, An Overview*, U.N. Environment Programme, 2nd mtg., ¶ 34, U.N. Doc. UNEP/IGM/2/INF/2 (2001), available at <http://www.unep.org/IEG/docs/K0135376.doc>.

66. IEG-Report, *supra* note 57, at 12.

67. *Id.* at 13–14.

68. *Id.* at 14–15.

environment.⁶⁹

The decisions made in Cartagena further clarified and strengthened the role of the EMG by requiring it to report annually to the GMEF, creating a direct link between this inter-agency group and the policy-level. At the same time, the role and function of the GMEF was broadened to ensure that the work of the GMEF was not limited to processes and activities within the UN system.

The GMEF in Cartagena adopted this comprehensive package of measures for strengthening international environmental governance in 2002. This agreement was certainly a success, as it underscored the commitment of the ministers of the environment to strengthening the international governance structure in general, and specifically gave UNEP a central policy role in international environmental policy making. While the agreement of Cartagena was important, it was equally important to confirm this decision at the World Summit on Sustainable Development (WSSD) in Johannesburg later in the year.⁷⁰ This confirmation was central because it broadened the relevance of the decision and made it a part of the overarching global commitment to sustainable development.⁷¹

As a whole, the comprehensive package agreed upon by all states is certainly more than minimal. It is especially gratifying that the IEG-decision addressed contested issues such as the universal membership of UNEP and the development of a new, more binding system of financial contributions of UNEP.⁷² Another important result is the promotion of the concept of clustering related MEAs as an important tool to enhance synergies, linkages, coordination, and cooperation.⁷³ The effective

69. G.A. Res. 53/242, *supra* note 49, ¶ 5.

70. *Report on the World Summit on Sustainable Development*, U.N. Commission on Sustainable Development, 10th Sess., Agenda Item 13, at 66, U.N. Doc. A/CONF.199/20 (2002), available at <http://www.johannesburgsummit.org/index.html>.

71. See Lee Kimball, Franz Xaver Perrez, and Jacob Werksman, *The Results of the World Summit on Sustainable Development: Targets, Institutions, and Trade Implications*, in 13 Y.B. OF INT'L ENVTL. L. 3, 12 (2002).

72. IEG-Report, *supra* note 57, at 6.

73. *Id.* at 11–12. The IEG-decision encouraging the co-location of MEA Secretariats was most recently confirmed by the decision of the first Conference of the Parties to the Rotterdam Convention not to relocate the Secretariat to Bonn but to maintain it within the existing Chemicals and Waste Cluster in Geneva and Rome. See Paula Barrios et al., *Summary of the Eleventh Session of the INC for an International Legally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the First Conference of the Parties to the Rotterdam Convention: 18–24 September 2004*, 15 EARTH NEGOTIATIONS BULL. 1, 6 (1999), at <http://www.iisd.ca/download/pdf/enb15105e.pdf>.

implementation of all of the different measures will contribute significantly to a strengthening of the international environmental regime.

III. CHARACTERISTICS AND SHORTCOMINGS OF THE PRESENT INTERNATIONAL ENVIRONMENTAL REGIME

It is important to regularly identify the shortcomings and deficiencies of the international environmental regime. A regular constructive critique of the system sustains the motivation to continue to strive towards a stronger, more effective international environmental regime. Additionally, regular evaluations offer concrete guidance on how to achieve the goal of increased effectiveness.

The shortcomings of the present international environmental regime have been repeatedly analyzed and described.⁷⁴ These shortcomings can be structured into four groups:⁷⁵

1. Insufficient commitment by the states to MEAs:

Important gaps exist in the international environmental regime in the field of water, forests, and liability rules. Many of the most important international environmental agreements are not yet fully ratified by the states,⁷⁶ and environmental agreements are not always effectively implemented or enforced.⁷⁷

2. Fragmentation of the regime: There has been a proliferation of environmental agreements and institutions, and many of these agreements stand outside

74. See, e.g., U.N. Environment Programme, *International Environmental Governance* (containing the documents and analysis prepared by UNEP for the IEG process), at <http://www.unep.org/IEG/WorkingDocuments.asp> (last visited Jan. 10, 2005).

75. See Franz Xaver Perrez, *Country-report: Switzerland's International Environmental Policy in 2001*, in 12 Y.B. OF INT'L ENVTL. L. 451, 452 (2001) [hereinafter *Switzerland's International Environmental Policy 2001*].

76. E.g., the U.S. has not yet ratified the Convention on Biological Diversity, *supra* note 43; the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Jan. 29, 2000, 39 I.L.M. 1027; the Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22; nor the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal, Mar. 22, 1989, 28 I.L.M. 657.

77. See, e.g., *Multilateral Environmental Agreements*, *supra* note 17, at 10.

of the administrative and political arrangement of UNEP,⁷⁸ and the Convention Secretariats are scattered across the globe. This fragmentation leads to inefficiencies, a lack of synergy, fragmentation of rules, and a proliferation of institutions. Additionally, it creates overlapping and duplicative rules, and complicates or even prevents coherence. The fragmentation of the regime leads to inconsistent or contradictory standards.⁷⁹

3. Limited authority of UNEP: UNEP is supposed to be the central pillar and catalyst for the international environmental regime, but has not been given—or not yet used—the full authority necessary to fulfil this task. Moreover, the fact that UNEP's governing body, the Governing Council, does not have universal membership limits its authority to provide policy guidance to other international environmental processes such as MEAs with broader membership.⁸⁰ Finally, UNEP lacks adequate, stable, and predictable resources.⁸¹

4. Structural imbalance between the environmental regime and other regimes: Compared with other international regimes such as the trade regime or international financial institutions, the environmental regime is not equipped with the same quantity of resources, effective structures, and political weight. For example, the international environmental regime still

78. E.g., United Nations Framework Convention on Climate Change, *supra* note 44 (not a UNEP Convention).

79. See French, *supra* note 2, at 177.

80. For a discussion of the question of universal membership of UNEP's Governing Council, see *Overview of Progress On International Environmental Governance: Report of the Executive Director*, U.N. Environment Programme, Governing Council, 8th Special Sess., at 3–6, U.N. Doc. UNEP/GCSS.VIII/5* (2004), available at <http://www.unep.org/GC/GCSS-VIII/K0470587.pdf>; *Issue Paper Concerning the Question of Universal Membership of the Governing Council/Global Ministerial Environment Forum of the United Nations Environment Programme*, U.N. Environment Programme, Governing Council, 22d Sess., U.N. Doc. UNEP/GC.22/INF/36 (1999) [hereinafter *Issue Paper Concerning the Question of Universal Membership*], available at <http://www.unep.org/GoverningBodies/GC22/Document/K0263554-e.doc>.

81. See *Indicative Scale of Contributions (Pilot Phase in 2003): Note by the Executive Director*, U.N. Environment Programme, Governing Council, 22d Sess., ¶ 3, U.N. Doc. UNEP/GC.22/INF/20/Rev.1 (2003), available at <http://www.unep.org/GC/GC22/Document/k0360313.pdf>.

lacks an effective dispute settlement mechanism.⁸² The fact that UNEP is under-equipped, understaffed, and under-financed⁸³ creates an imbalance in the interaction with other international institutions. Moreover, there is a structural or institutional imbalance because of the often weak or soft provisions in MEAs. While other regimes typically provide for compulsory obligations, environmental agreements often include only recommendations or obligations that cannot be legally enforced.⁸⁴ Finally, the environmental pillar's relationship (both complimentary and conflicting) with the economic and social pillars within the global system for sustainable development needs to be clarified and operationalized.⁸⁵

IV. MEASURES FOR STRENGTHENING INTERNATIONAL ENVIRONMENTAL GOVERNANCE

A. Criteria for Strengthening International Environmental Governance

In light of the outlined shortcomings of the existing international environmental regime, methods for addressing and correcting these deficiencies must be considered. The international environmental regime must be strengthened in order to create the structure and mechanisms necessary to effectively protect the natural base of our existence, while at the same time avoiding duplication, overlap, and inefficient arrangements. The following four criteria can be used to assess the effectiveness of a regime or international structure. While the criteria are inherently interrelated, each criterion nevertheless focuses on a specific and distinct aspect of environmental policy making (deemed the double

82. See French, *supra* note 2, at 181.

83. *International Environmental Governance: Report of the Executive Director*, U.N. Environment Programme, 7th Sess., pt. 2, ¶¶ 113–22, U.N. Doc. UNEP/GCSS.VII/2 (2001), available at http://www.unep.org/IEG/docs/ED_Report_IEG.doc.

84. French, *supra* note 2, at 177.

85. *The Cartagena Protocol on Biosafety*, *supra* note 14, at 521, 523. But see Franz Xavier Perrez, *The World Summit on Sustainable Development: Environment, Precaution and Trade—A Potential for Success and/or Failure*, 12 RECIEL 18–21 (2003) [hereinafter *World Summit on Sustainable Development*] (the WSSD seems to have contributed significantly to such a clarification).

e/double c approach):⁸⁶

Coherence: The international environmental regime should be free of inconsistencies and contradictions. While the current lack of coherence may be attributed to many factors, the lack of coordination between relevant actors such as national agencies and international institutions is certainly a key factor. Therefore, the international governance structure must promote cooperation and coordination between all actors concerned, at both the national and the international level.

Comprehensiveness: The international environmental regime should have no gaps. In fact, because of the ecological interdependencies between different regions, resources, and ecosystems, gaps in one area may impede successes in other areas.⁸⁷ Therefore, the international governance structure should address international environmental challenges in a comprehensive manner.

Efficiency:⁸⁸ The international environmental regime should use the limited resources available to it for the protection of the environment, and avoid unnecessary transaction costs. Actors must avoid duplication of structures and uncoordinated dispersed decision-making processes. Moreover, environmental measures should not be unnecessarily costly or restrictive.

Effectiveness:⁸⁹ The international environmental regime must have a concrete and tangible positive impact on the global environmental regime. It must provide for effective measures that result in better protections and a more sustainable use of ecological resources.

86. *Switzerland's International Environmental Policy 2001*, *supra* note 75, at 453.

87. *See generally* COOPERATIVE SOVEREIGNTY, *supra* note 5, at 123–29 (indicating that while for a long time environmental effects of activities were noticed only locally, the global environmental interdependencies are today well accepted, and describing the reality of global interdependencies with the example of climate change).

88. Weiss, *supra* note 6, at 697–701.

89. *Id.* at 695–97.

Utilizing such a “double c/double e approach,” the international environmental governance structure could be strengthened by striving to become more coherent, comprehensive, efficient, and effective. Similarly, the future criteria to use in assessing whether a strengthening of the international environmental regime has occurred should include analyses of its coherence, comprehensiveness, efficiency, and effectiveness.

B. Concrete Measures That Address the Identified Shortcomings

Keeping in mind the shortcomings of the current regime, the overarching goal of protecting the environment, and the four principles discussed above (the “double c/double e approach”), the authors propose the adoption of the following set of concrete measures in order to best strengthen international environmental governance:⁹⁰

In order to address the shortcomings linked to an **insufficient commitment to MEAs**, states should work to ensure:

- rapid ratification, implementation, and enforcement of the existing MEAs;⁹¹
- rapid completion of the work already begun;⁹²
- closure of existing gaps in the actual international legal environmental regime;⁹³
- strengthening of core environmental principles, such as the precautionary principle and the polluter pays principle; and
- effective implementation of the principle of common but differentiated responsibilities, which requires all countries to participate according to their means in the common efforts to protect our global environment.

In order to address the shortcomings linked to **regime fragmentation**, it is crucial to convert the fragmented sector policy

90. *Switzerland's International Environmental Policy 2001*, *supra* note 75, at 453–55.

91. Several countries have not yet ratified the Biodiversity Convention, Biosafety Protocol, Kyoto Protocol, PIC-Convention, and POPs-Convention.

92. It is crucial to address the second commitment period within the process established by the UN Framework Convention on Climate Change.

93. Gaps exist in the area of forests, water, and liability.

responses into a more coherent and integrated approach. Therefore, the following policies should be pursued:

- promoting the clustering of MEAs, which would imply geographic co-location as well as structural/organizational integration of related institutions;
- strengthening and clarifying the role of the EMG. The EMG plays a crucial role in ensuring coherence and cooperation between the different institutions involved in international environmental policy.⁹⁴ Measures should be adopted which strengthen and clarify the role of the EMG, including clarifying its mandate, and expressly laying out the tasks it should pursue to provide a platform for coordinating the activities of its members; to address inconsistencies and duplications between its members; and to monitor their environmental decisions, strategies and policies; and
- developing the GEF as the central international environmental financial mechanism in order to streamline and consolidate the mechanisms for financing the implementation of these agreements. Possible measures for accomplishing this could include expanding the scope of the GEF into new thematic areas, and streamlining its decision-making process even further.

In order to address the shortcomings linked to the **limited authority** of UNEP, UNEP must be strengthened politically, institutionally, and organizationally as the central pillar of the international environmental regime. In addition, UNEP must have an adequate and predictable financial basis. Possible measures include:

- more effectively using the GMEF/UNEP Governing Council's existing mandate to both review the overall development of international environmental policy and to provide overarching policy guidance;

94. See generally *International Environmental Governance: Report by the Executive Director: Report of the work of the Environmental Management Group*, U.N. Environment Programme, Governing Council, 8th Sess., pt. 5, addendum 2, U.N. Doc. UNEP/GCSS.VIII/5/Add.2 (2004), available at http://www.unep.org/GC/GCSS-VIII/working_docs.asp.

- clarifying and strengthening the role of the GMEF and of UNEP's Governing Council. Participation and membership in both institutions should be universal;⁹⁵
- maintaining focus on UNEP's political and legal core activities and preventing duplication of other existing institutions that have a comparative advantage with regard to concrete projects or implementing activities;⁹⁶ and
- converting the actual funding through voluntary contributions into a more binding system, as well as increasing the overall financial contributions while ensuring an equitable burden-sharing.⁹⁷

Finally, to address the shortcomings linked to the **institutional imbalance** between the environmental regime and other regimes, the following measures should be considered:

- assuring that MEAs contain clear obligations that are complemented by effective compliance and enforcement mechanisms;
- evaluating possibilities for an effective global environmental dispute settlement mechanism;
- clarifying the relationship between trade and environmental regimes;⁹⁸ and
- clarifying the interaction between the environmental component and the other pillars of sustainable development.

Some of these concrete measures can be found in the comprehensive package of measures adopted by the GMEF and the WSSD for strengthening international environmental governance.⁹⁹ Others, such as the clarification and operationalization of the precautionary principle¹⁰⁰ and the polluter pays principle, or the further

95. *Issue Paper Concerning the Question of Universal Membership*, *supra* note 80.

96. *Switzerland's International Environmental Policy 2001*, *supra* note 75, at 454.

97. *See generally Indicative Scale of Contributions (Pilot Phase in 2003): Note by the Executive Director*, *supra* note 81.

98. *World Summit on Sustainable Development*, *supra* note 85, at 18–21.

99. IEG-Report, *supra* note 57, ¶ 17 (concerning the funding of UNEP), ¶¶ 27, 29 (promotion of clustering of MEAs), ¶ 36 (role of the EMG).

100. *World Summit on Sustainable Development*, *supra* note 85, at 15–18 (giving a

clarification of the relationship between the WTO and the MEAs, must remain on the top of the international environmental agenda.¹⁰¹

C. Policy Options for the Future

There are different policy options that can be used to address both the limitations and challenges of the present international institutional architecture as well as the measures to strengthen international environmental governance outlined above. These options can be clustered into four different approaches: (i) continue without change; (ii) effectively implement the IEG-programme adopted by the GMEF and the WSSD in 2002; (iii) establish a World Environment Organization; and (iv) create a "Security Council for the Environment." While the first two options remain within the architecture of the present international environment regime, the second two options would involve a fundamental change in the present international environmental governance structure. Such a shift would require either the establishment of a new organization whose authority and function still would have to be determined, or the acceptance of a new political body with the authority to adopt binding and compulsory decisions and measures even against the will of the states concerned.

We could continue without change, but this is not a viable option. The proliferation of institutions and processes has made it nearly impossible to participate actively and constructively in all relevant international activities. The present regime simply is not adequate to ensure comprehensive, coherent, effective, and efficient international environmental policy-making.

We could effectively implement the IEG-programme adopted by the GMEF and the WSSD to strengthen the international environmental governance structure. This would include enhancing the policy guidance role of UNEP, ensuring universal membership in the UNEP Governing Council, and providing UNEP with a compulsory financial contribution scheme. However, the IEG-programme does not address all areas of concern as the clarification of the precautionary principle and the clarification of the relationship between WTO and MEAs are not included. Thus, the IEG-programme would have to be altered to address these shortcomings. While the IEG-programme might be seen as a very

short overview of the emergence of the concept of precaution, the development from the Rio Conference to the WSSD, and of the related negotiations at the WSSD).

101. *Id.* at 18–21 (giving a short overview of the issue, the related WSSD negotiations and a brief analysis of the relevant WSSD decision); *see also The Cartagena Protocol on Biosafety, supra* note 14, at 520.

pragmatic solution, it is at the same time an ambitious approach, as it will not be easy to implement all its elements. Some might fear that this approach will lead to a global environmental regime that is too strong, too active, too dominant, and too restrictive.

A third option would be the creation of a World Environment Organization (WEO), an idea advocated by Germany in the mid 1990s, repeated in 1999 by the WTO executive director Renato Ruggiero, and recently promoted by France at the 58th UN General Assembly.¹⁰² At first glance, this option seems very attractive. However, a closer look reveals several unanswered questions. For one, the relationship between such a WEO and the existing MEAs and the United Nations is unclear. Would the WEO become the roof and governing body of the different existing mechanisms or would it be a complementary body? Should the WEO follow the model of a WHO that is generally seen as a part of the overarching UN system,¹⁰³ or should it follow the model of the WTO that has a more independent character?¹⁰⁴ The purely institutional proposal for a WEO does not in itself ensure the coherence, comprehensiveness, efficiency, and effectiveness of the international environmental regime. Only substantive measures, such as ensuring a policy guidance role to a new WEO, could address this challenge. Moreover, at the moment, despite the political unlikelihood,¹⁰⁵ such a WEO would risk absorbing valuable resources and efforts needed for the rapid implementation of the IEG-measures. Furthermore, by formulating a probably over-ambitious idea, a WEO might risk inadvertently increasing opposition against the IEG-measures, which might then come to be seen as merely a logical first step towards a WEO.

Finally, a fourth option would be the creation of a "Security Council for the Environment," a supreme body which would have the authority to adopt binding decisions and measures. This supreme body would reflect the reality that environmental hazards may have global security implications.¹⁰⁶ The body's mandate could include the following elements: to react to urgent situations; to respond to serious

102. See generally Biermann, *supra* note 3.

103. World Health Org., *About WHO* ("The World Health Organization is the United Nations specialized agency for health."), at <http://www.who.int/about/en/> (last visited Jan. 10, 2005).

104. See generally World Trade Org., *What is the WTO?* (The WTO does not make reference to the U.N.), at <http://www.wto.org> (last visited Jan. 10, 2005).

105. Simonis, *supra* note 3, at 32.

106. See, e.g., Biermann, *supra* note 3, at 29; see also Geoffrey Palmer, *New Ways to Make International Environmental Law*, 86 AM. J. INT'L L. 259 (1992); Simonis, *supra* note 3, at 32 (referring to a "hierarchization model" of a WEO that is entrusted with enforcement powers against states).

environmental threats; to solve environmental conflicts between states and eventually even between states and private actors; to ensure the maintenance of balance between social and economic development and the protection of the environment; and finally, to address the relationship between environmental crises, environmental refugees, armed conflicts, and threats to peace. Despite the benefits of such a worldwide body, the reality of a powerful, centralized, environmental world institution such as a Security Council for the Environment is unrealistic.¹⁰⁷ Not only would any kind of hierarchical institutionalization of the state system encounter insurmountable resistance, especially by powerful states, but also punitive enforcement would probably only be feasible against small and weak developing countries. In that regard, the international environmental protection regime could risk becoming or being perceived of as akin to a new form of colonialism.¹⁰⁸

V. CONCLUSIONS

The development of the international environmental governance regime can be summarized as follows: the first international environmental treaties and agreements were enacted in the middle of the nineteenth century as a response to the need to limit the exploitation and destruction of natural resources, yet these early treaties provided for ad hoc solutions that were limited in scope and approach. As pressures on the environment have increased and the necessity for cooperative responses has become more obvious, international agreements for the protection of the environment have multiplied. Over time, a complex network of over 500 international environmental agreements and treaties has emerged. However, with this incredible growth of environmental regulation, the proliferation of environmental processes, and the mushrooming of environmental institutions, the need for cooperation and coordination has also become increasingly clear. The current institutional structure is inadequate to support this development, despite several attempts to strengthen the international environmental governance structure. The most promising of these has been the adoption by the GMEF and the WSSD of a set of measures for strengthening UNEP and increasing coordination and cooperation between related MEAs.

This article proposes a number of concrete measures that address the underlying challenges of the present international institutional

107. See generally Biermann, *supra* note 3; Simonis, *supra* note 3, at 32.

108. See generally Biermann, *supra* note 3; Simonis, *supra* note 3, at 32; see also COOPERATIVE SOVEREIGNTY, *supra* note 5, at 95 (concerning "eco-colonialism").

architecture for the environment. Specifically, the article presents four policy options for the future: continue without change, implement the programme developed by UNEP and the GMEF for strengthening international environmental governance, create a World Environment Organization, or establish a Security Council for the Environment. While some of the measures and the policy options initially appear far reaching and complex, one must bear in mind that the issues at stake are also complex. Failure to address challenges to the environment in a timely way will bring about farther-reaching consequences than implementing these measures. Moreover, strengthening international environmental governance, enhancing synergies and coherence, and increasing efficiency would also reduce existing transaction costs and facilitate a greater, active participation of world governments in the institutions and structures which are now scattered all over the globe. Finally, it would be a first step toward ensuring a more effective protection of the global environment, which is the basis and substance of all life.

In conclusion, proposed measures for strengthening international environmental governance have to be ambitious. However, to be successful, they must be realistic as well. This is the reason we are convinced that the international community should focus its energy on the effective and rapid implementation of the measures discussed and adopted by the Global Ministerial Environment Forum in Cartagena in 2002, while at the same time not sacrificing more ambitious visions for a coherent, comprehensive, efficient, and effective international environmental regime.